Report From Dan Burden Walkability Audit
21st and 22nd of July, 2003

On July 21 and 22, Takoma Park was visited by pedestrian safety expert Dan Burden. Burden, executive director of Walkable Communities, Inc. has worked with over 1,400 communities across the country to help them become more walkable places.

On July 21, Burden conducted a "walkability audit" throughout the City with a team of resident volunteers. This audit covered the following areas of the City: Municipal Building area; Flower Avenue and Piney Branch; Flower Avenue and Carroll Avenue; Takoma Junction to Old Town along Carroll Avenue; several intersections along New Hampshire Avenue; and the Takoma/Langley Crossroads at New Hampshire Avenue and University Boulevard.

At each stop along the audit, Burden made observations about the existing conditions; residents most familiar with the problem areas added their observations; and Burden gave recommendations as to how the conditions could be improved.

Burden made a lengthy PowerPoint presentation to the City Council on the evening of July 21. In the presentation he gave numerous examples of how cities and towns across the country have made physical improvements to their roadways that have made them significantly safer for both pedestrians and drivers. Burden then gave recommendations for how to improve specific locations within Takoma Park.

On Tuesday, July 22, Burden gave recommendations to Maryland Transportation Secretary Robert Flanagan for how to improve pedestrian in the Crossroads area just after a press conference on pedestrian safety that was organized by CASA of Maryland. Later that day, he led a walkability audit of the area around the Takoma Metro.

For more information, please contact Rob Inerfeld at roberti@takomagov.org or 301-891-7219.

MONDAY 21-JUL-03-

MD-410/Philadelphia Ave @ Cedar Avenue

MD-410/Philadelphia Ave at Cedar Ave, Old Philadelphia and Library Parking Lot

The same intersection with the proposed median and curb extensions

Residents mentioned that this is a dangerous intersection.

The bend and change in grade is what presents the danger here—it is a blind curve.

- The crossing should be placed where the highest percentage of people would use it. Include a pedestrian refuge island with an opening slanted at a 45 degree angle to the road. This will force the pedestrians to make eye contact with motorists before crossing.

- Extend the curb on the south side of the road to the north. This will help the motorist read the bend in the road. The eastbound lane does not use that stretch, as can be seen by the difference in coloration of the pavement—passing cars have colored the pavement of the travel lanes darker

- Eliminate the fence on the north side of the road or replace it with something shorter, or more see-through. (Note: The City is planning to replace this chain link fence with a split rail fence.)

- Extend a thin median towards the west. It will simultaneously eliminate unused pavement, and give advance notice to the motorist that something is up ahead.

- Could institute a crosswalk that pulsates when a pedestrian enters.

Maple Avenue @ MD-410/Philadelphia Avenue

The worst configuration possible for stop lights is to dangle them diagonally across the intersection, as in the case of this intersection. In fact, it is no longer legal in most states. The stopped motorist focuses on the light higher up in their field of vision and is less likely to notice a pedestrian at the intersection. It is better to use a "box" pattern for the stop lights which places the signals at the far end of the intersection and forces the motorist to focus at a lower trajectory straight ahead, where they are also most likely to see pedestrians. Ideally the signals would be posted on mast arms or posts.

- Installing a roundabout would allow automobile traffic to move through the intersection at a constant speed of about 15-20 MPH during most hours of the day rather than creating the stoppages associated with a signalized intersection. At 15-20 MPH automobiles are very likely to pause for a pedestrian to cross. A roundabout would be able to handle 25,000 vehicles per day and would typically cost the same amount as correcting a conventional intersection. The City needs to construct a model roundabout to prove its viability and this would be a good location for that.

- The fence from the Community Center's construction is blocking the sidewalk at the intersection forcing pedestrians to cross the road prior to the intersection. (Note: A temporary sidewalk has been created on Maple and the fence has been moved back on Philadelphia.)

OSHA may have mandated that the fence block the sidewalk, but if OSHA officials were to come to the site they would see that they are putting pedestrians in danger.

MD-410/Philadelphia Ave at Maple Ave, crosswalks with pedestrian signs

- This intersection had a burned out pedestrian crossing light.

- There should be crosswalks and pedestrian signals at all four crossings. Currently there are just three pedestrian signals.

- There are unwarranted signs at this intersection, including signs informing motorists of the crosswalks. There should be no such signs at signal-controlled intersections. Motorists need a lot of information quickly, and it is easier to read necessary information when there are fewer signs.

SHA Representative Stephanie Yanovitz: The pedestrian signals were added due to citizen complaints.

Maple Avenue @ Grant Avenue (in front of the Municipal Building)

- A roundabout with splitter islands could be very suitable for this intersection as well.

In order to demonstrate how this would look and function, Dan formed the walking tour participants into a human roundabout. He speculated that the curb lines may not need to be moved and, if not, it should cost between $5,000 and $15,000 to construct.

Although this is not an intersection with four way stop signs, such intersections create inefficiencies. Motorists speed up between intersections only to stop abruptly at the next stop sign. Roundabouts allow the motorist to proceed through intersections at a constant speed, yet

the cars travel slow enough that they will stop for pedestrians to cross. Related to stop signs, speed bumps are an inefficient way to calm traffic as they cause similar problems.

One resident noted that on Westbound Philadelphia Avenue there is no notice to motorists that they are approaching Takoma Park's municipal center, and that a roundabout would help create a sense of place.

Flower Avenue @ Piney Branch Road

Crosswalk on Piney Branch Rd at Flower Ave

These traffic signals are in the box pattern with stop lights located across the intersection in all four directions. This is a good example of how traffic signals should be configured.

- The crosswalk on Piney Branch (from Beijing Delight towards Domino's Pizza) is too far from the intersection. It should be moved closer to the intersection and the pedestrian signal.

- There are too many curb cuts and they are too close to the intersection. Eliminating some curb cuts would open additional space for parking.

- Further down Flower Avenue there is a row of shops with diagonal parking out front. Use of reverse-in-diagonal-parking in this location would create a few more automobile parking spaces, and would provide additional sidewalk space to the restaurants some of which could be used for outdoor seating. In order to implement this strategy the sidewalk would be moved closer to the buildings.

Dan Burden and participants on Flower Ave

- Reverse-in-diagonal-parking makes leaving the parking spot safer. To vacate the space, a motorist drives forward rather than backward and there are fewer blind spots than in front-in-diagonal-parking. Furthermore, when the car is backed into the spot, its doors and trunk open towards the sidewalk rather than towards moving automobile traffic, allowing for safer access. Reverse-in-diagonal-parking has been in use in the Adams Morgan neighborhood of Washington, DC on 18th Street, NW for many years.

Diagonal Parking on Flower Ave

- South of the intersection on the west side of the road, an overflowing trash can is located in the center of the sidewalk. This blemish parallels with a blemish on a model's face. If a model gets a blemish, she might not get hired again and if pedestrians have to walk past an overflowing trash can, they might not walk through the area again. Furthermore, the trash can should not be located in the pedestrian right of way.

- Continuing south on the same side of the street, a traffic sign is posted with not enough clearance for all pedestrians. The bottom edge of the sign is about 5' 6" from the sidewalk presenting a potential hazard to pedestrian's heads.

Dan Burden with the low pedestrian sign

The pedestrian "blemish"

Flower Avenue @ Domer Avenue

Forming the human median on Flower Ave

A Metro Bus passes the human median

- A pedestrian refuge with median nose should be designed for this intersection. This would allow a pedestrian to cross the road one half at a time while encouraging traffic to slow down a few MPH. Dan formed a human pedestrian refuge by positioning participants in the middle of the road. A full size Metro bus as well other automobiles successfully passed our human pedestrian refuge.

Flower Avenue @ Columbia Union College

The pedestrian signal on Flower Ave

This is a pedestrian activated signal where automobile traffic crosses a crosswalk. If the pedestrian presses the button at the signal, the automobile traffic is stopped to allow the pedestrian to cross.

- This intersection had a burned out pedestrian crossing light. Pedestrian crosswalk lights often go unreported for a long time while motorists' signals are usually replaced in a day. Pedestrians need to know that the system supports them, and where to call to report a burned out light. This was mentioned because people often don't know if a road is maintained by the City, County, or State. This would be a good location for a countdown signal.

- There are two stop lines for automobile traffic that makes it confusing to motorists as to where they should stop. Stop lines should be away from a crosswalk to keep the motorist from confusing the crosswalk with the stop line, and to allow pedestrians room to cross.

Flower Avenue @ Carroll Avenue

Right-hand turn lane from Carroll to Flower

Negotiating the right-of-way

- If there is a right turn cut-through built here in conjunction with an expansion by the Washington Adventist Hospital, it should be in the Australian model. It should come in more gradually with a sharp turn at the end. It is difficult for cars turning here to predict the gap of merging onto Flower Avenue with northbound Carroll Avenue cars that have turned left onto Flower. When the car reaches the intersection, the motorist is already facing away from the intersection, creating a blind spot, which causes the driver to stop to look over his or her shoulder before proceeding.

- There is an existing right hand turn cut-through which is not the Australian model. It is difficult for cars turning here to predict the gap of merging onto Flower Avenue with oncoming northbound Carroll Avenue cars that turn left (also onto Flower). While at this intersection, two cars turning in the ways indicated above had to stop and negotiate who would go first onto Flower.

- This would also be a good location for a roundabout. Although it will cost more to construct than a conventional intersection, it will reduce crashes by 90%, and traffic will be free flow 80 to 90% of the time. The hospital may want to maintain the roundabout.

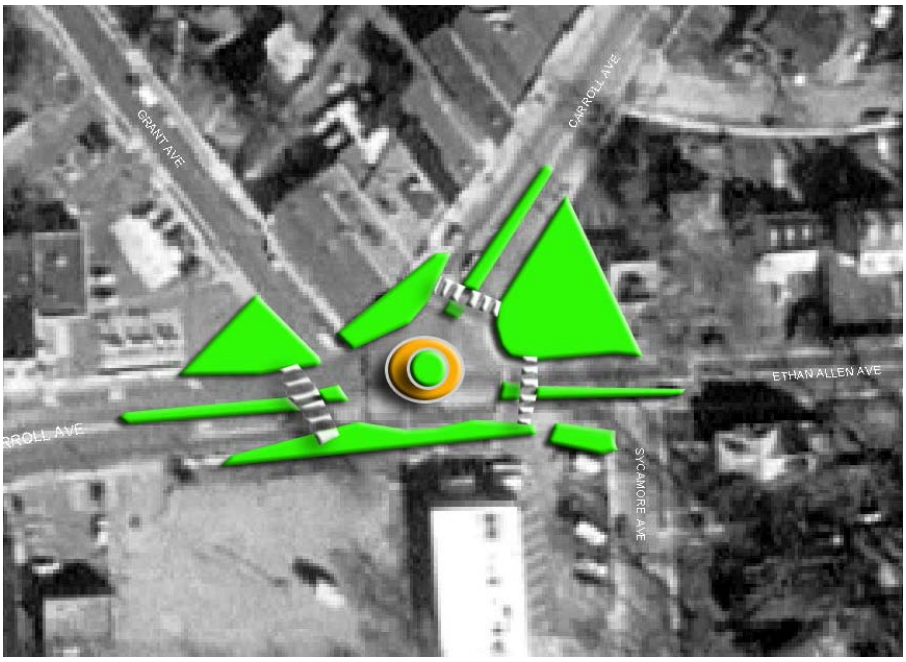
Dan measuring the available sidewalk (notice the multiple trip hazards)

Carroll Avenue @ Washington Adventist Hospital Entrance

- A roundabout could be a suitable solution for this intersection. Traffic signals create queuing. The cost of a roundabout would be comparable to the cost of re-engineering and rebuilding the intersection with stop lights.

- Move the wall along Carroll Avenue (across from the hospital) back away from the road to extend the line of sight.

Carroll Avenue @ Ethan Allen, Grant and Sycamore Avenues



Aerial view of Takoma Junction with proposed roundabout

Resident: The signal timing here creates queuing.

The signals are probably operating at their most efficient timing, and that it is just a complicated junction of streets.

- An elliptical roundabout (an "oblongabout") would probably eliminate queuing at all times except peak hours. It would also shorten the amount of road that a pedestrian would need to cross at any one point. This would probably be able to move 30% more traffic than a signalized intersection, would reduce pedestrian injuries by 50%, and reduce overall injuries by 90%. Additionally, this would solve 22 out of 24 hours of traffic problems. However, the greater efficiency of the intersection may attract additional motorists.

- There is a confusing one way sign located in front of the Co-op parking lot. This is meant to inform drivers that the Co-op parking lot is one way, though it could easily be mistaken that Sycamore Avenue is a one way.

- Move the bus stop on Carroll at Morrison Park down the hill 100 feet to help relieve congestion in the intersection.

Resident: Pedestrians would prefer to cross Carroll right in the middle of Takoma Junction. Currently, pedestrians must cross both Carroll and Ethan Allen.

- A crosswalk could be installed on Carroll just west of Grant. This would allow pedestrians to cross just Carroll, instead of the existing need to cross both streets (see picture above).

Carroll Avenue @ Philadelphia Avenue/MD-410 (Fire Department)

The present sidewalk is narrow, close to the street, and it meanders around multiple utility poles on either side of the fire station. The existing crosswalk at this intersection goes directly into the Fire Department Driveway. You do not want crosswalks that end in driveways. During our visit, parked emergency vehicles were blocking the sidewalk forcing pedestrians to step into the street to pass.

The Push button for the crosswalk is far away. While we are at this corner, a woman with a stroller illustrates the case in point. Wishing to cross Carroll towards the Fire Department, she leaves her baby stroller unattended to walk 10 ft away to press the push button to cross towards us.

Woman leaving her baby to press the walk signal at Carroll and Philadelphia Avenues

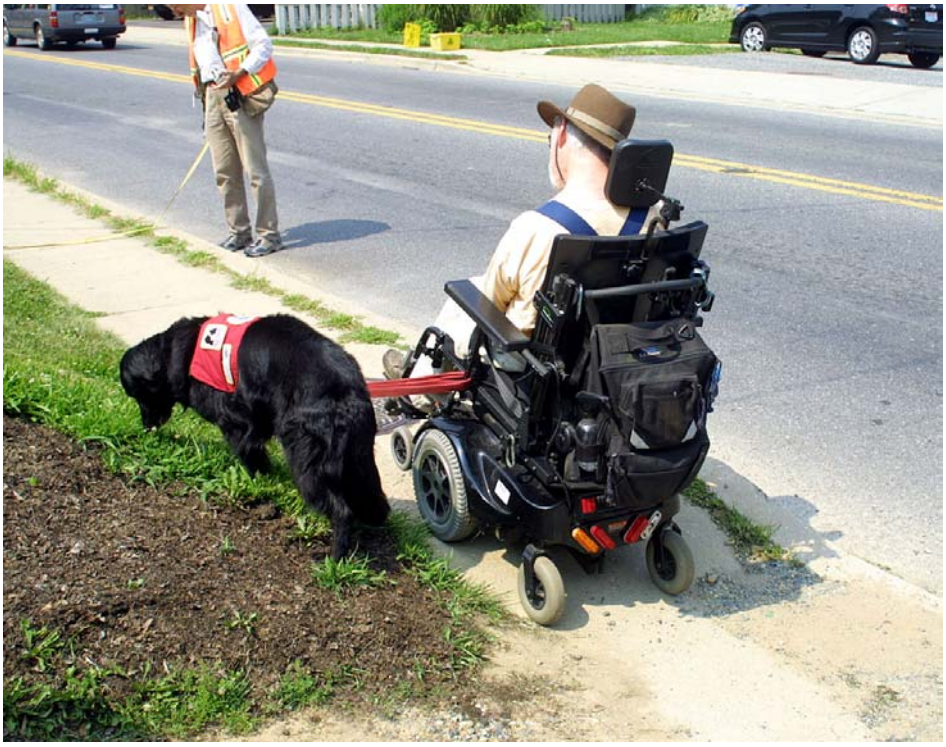
- The push buttons should be replaced with a more ergonomic model. What we have is a recessed button that is about 1/8" in diameter. A large button is easer to hit, and if it is slightly concave, it can be hit with canes, or the elbows of people whose hands are full.

Carroll Avenue, between Philadelphia and Columbia

Residents point out that they would like to see wider sidewalks, but that the right of way is narrow and that it would probably necessitate a lengthy process of gathering support amongst the owners of property on this street.

- The city should hire a full time pedestrian professional to deal solely with pedestrian issues such as this. Dan measures the road and points out that since it is 29' wide, it can support two 10' lanes for automobiles, and a 4' lane on both sides for bikes. In addition to a painted line, the 4' wide lanes can be pigmented to differentiate from the regular automobile traffic lanes.

- The sidewalks on these streets are 3' wide. This is half the width required by the American Association of State Highway Transportation Officials (AASHTO).



Steep driveway aprons pose difficulties for wheelchair accessibility on Carroll Ave

Carroll Avenue @ Columbia and Park Avenues

Highway agencies are transforming into transportation departments. This change is happening due to the realization that some travel modes have been neglected. Because this transformation is not yet complete, models that are built now will eventually be used by transportation departments as future guidelines.

Resident Bill Brown: Numerous school children cross at this intersection. SHA should install a crosswalk at this intersection.

- A pedestrian refuge on Columbia where it enters Carroll should replace unused pavement. The "mouth" of Columbia is much wider than necessary here and is a very large distance for a pedestrian to cross. The refuge would allow the pedestrian to cross one half at a time. It would also define the road better for motorists.

A resident mentioned that a drunk motorist's car left the road at this intersection.

- A well planted and colorful median on Carroll Avenue would be highly visible from a distance, and would give drivers visual cues that there is a slight bend in Carroll Avenue right at Columbia.

Dan positioned the tour participants in the road on Columbia to illustrate the size and function of a pedestrian refuge at this intersection.

Proposed medians on Carroll and Columbia Avenues

Dan Burden forming a human median at Carroll and Columbia Avenues

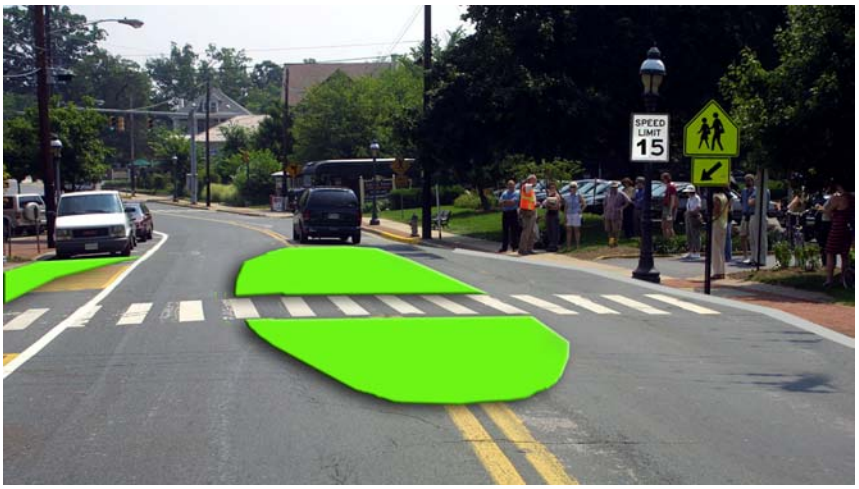
Carroll Avenue @ Tulip Avenue

Crosswalk, pedestrian signal and narrow pedestrian ramp on Carroll Ave at Tulip Ave

Tulip Avenue has a pedestrian activated stop light and crosswalk at this intersection. The pedestrian ramp is not as wide as the crosswalk but should be at least as wide as the crosswalk. Additionally, there are no stop bars painted on the road for cars at this pedestrian signal.

- There is a need for more visual information for motorists. Vehicles traveling towards Old Town on Carroll Avenue must navigate a curve in the road. If speeding, they may hit cars stopped for pedestrians at this crosswalk. The upstream problem must be solved but with a judicious amount of signage. Too many signs are overwhelming to motorists.

Crosswalk at Takoma Tower

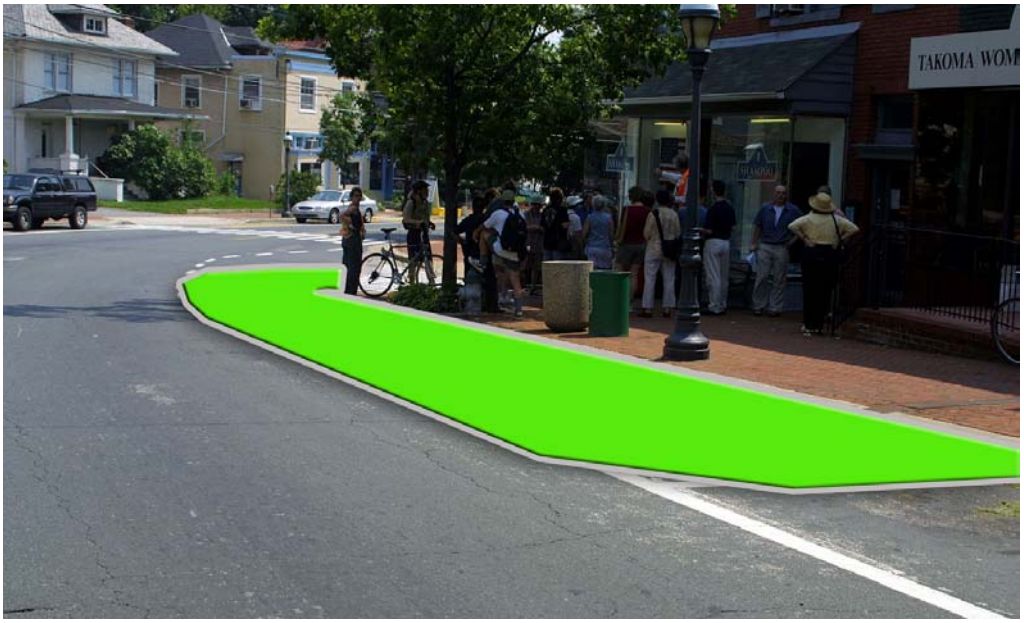


Proposed elliptical median on Carroll Ave

- Adjacent to this crosswalk is asphalt that is not allowed to be used as parking, nor is it a travel lane. Using this space, a 30-40' elliptical median would simultaneously slow cars to about 15 MPH, and allow pedestrians to cross Carroll, one lane at a time.

One walkability participant argued that this would slow rush hour traffic down. Dan pointed out that rush hour traffic would already be traveling slowly.

Carroll Avenue @ Westmoreland Avenue



Proposed curb extension on Carroll Ave at Westmoreland Ave

- There is reserved space on the side of Carroll that is painted with a side line. In order make certain that cars will not enter this area, the curb should be extended to where the side line is painted.

- Someone asked if blocking off the fire hydrant with a curb extension would be problematic. Dan responded that fire departments love curb extensions because they assure access to the hydrant. Dan also cleared up the person's confusion regarding fire hydrants: the firemen only need to connect the hose to the hydrant and need room for their wrench to do so; they do not need to park the fire truck in front of the hydrant.

- The crosswalk on Westmoreland should be moved closer to Carroll Avenue. This would improve visibility for motorists looking for cars on Carroll as well as position the crosswalk on a flatter area of the road.

Carroll Avenue @ Laurel Avenue

As it turns right to follow the street towards the Takoma Metro Station, Carroll Avenue's receiving width is very large. "Receiving width" is an expression referring to the width of road at the point where cars enter from the intersection. The width of a road corresponds to the length of crosswalks that traverse it; therefore, an unnecessarily wide receiving width creates unnecessarily long pedestrian crosswalks. A curb extension covering unused parts of the road would shorten the distance and time it takes for a pedestrian to cross the street.

The clock tower on Laurel Ave

- The crosswalk near the four sided clock on Laurel Avenue should be moved closer to the intersection to make crossing pedestrians more visible to motorists.

- A median nose should be added between this crosswalk and the intersection to form a pedestrian refuge to aid in crossing Laurel Avenue.

- This is another good location for a roundabout.

Laurel Avenue @ Eastern Avenue

- The receiving area of Laurel Avenue from Eastern Avenue is wider than necessary. This should be shortened by extending the curb, thereby decreasing the distance a pedestrian must travel to cross the street. A median nose should be installed next to this crosswalk.

Laurel Avenue

- The existing width of eastbound Laurel is wide enough to support a 10' travel lane, a 7' bike lane, and 6' parking lane. To achieve this, the city merely needs to paint the bike lane. The narrower automobile travel lane will slow traffic a few MPH adding to pedestrian safety.

- Another option would be to have 10' travel lanes and angled parking separated by a two foot wide valley/gutter system that would carry water to a grate. The presence of angled parking also encourages motorists not to speed, and would increase the amount of parking spaces in Old Town. This would still be a good situation for bicyclists in spite of omitting bike lanes, because slower traffic would make the area safer for bike travel. This option might require shortening the width of sidewalk by about two feet. Bollards (posts that keep cars from driving up onto the sidewalk) would be a good way to define the boundary between sidewalk and angled street parking.

New Hampshire Avenue @ Sheridan

- Extend the median nose of the receiving area on northbound New Hampshire Avenue. This would keep cars cutting into the crosswalk near the median as they turn left from eastbound Sheridan into northbound New Hampshire.

- Decrease the turning radii at corners of this intersection. Lowering the turning radius makes for a sharper turn which forces automobiles to slow down as they maneuver through the intersection, giving them a better view of the intersection and more time to check for pedestrians.

New Hampshire Avenue @ Ethan Allen Avenue/East-West Highway/MD-410

Right hand turn lane from New Hampshire to East-West Highway

- The right turn cut-through from northbound New Hampshire to eastbound East-West Highway should be narrowed to allow for a shorter pedestrian crosswalk. The cut-through should be in the Australian model.

New Hampshire Avenue @ University Boulevard

Crossing University Blvd

Dan briefs the group

This is a very spacious skewed intersection with long crossing distances. There is no system of support for crossing pedestrians. Anything that could be added would merely be "band-aids" to a larger problem. To make this intersection less hostile to pedestrians the entire area needs to be redesigned. It would need to be looked at as a village with a real heart or center. The area is an area with urban needs but with suburban street and land use systems.

Resident: Suggests a pedestrian overpass here.

- This would encourage cars to speed, making the other crossing points nearby even more dangerous. Other cities faced with similar situations that have chosen to install pedestrian overpasses saw increases in pedestrian mortality rates. A pedestrian overpass would also be very expensive to construct.

- Another option would be to place one of the roads underground at this intersection. Although expensive to construct, this would eliminate some of the pedestrian difficulties.

University Blvd looking west from New Hampshire Ave

New Hampshire Avenue @ Toys R' Us

This is a better place to cross New Hampshire Avenue so people cross here.

Montgomery County Police Officer: Pedestrians cross at this point because there is a bus stop here.

- Build a nice comfortable shelter in the middle of the road for pedestrians to wait so they can cross the street one half of the road at a time. Installation of a pedestrian signal here will allow pedestrians to cross with the benefit of a signal. However, the signal should only stop one direction of traffic flow at a time. A pedestrian would press the button to stop New Hampshire Avenue traffic headed one way, then at the shelter in the middle of the road they would press a second button to stop the traffic headed the opposite direction. Stopping traffic in only one direction at a time allows the time that traffic stops to be shorter than if both directions were stopped for pedestrians to cross both halves of New Hampshire Avenue.

New Hampshire Avenue @ Lebanon Street

- The same sort of pedestrian refuge would be called for. The lanes of New Hampshire Avenue could be narrowed to allow for the pedestrian refuge between the north and southbound lanes of New Hampshire Avenue.

Residents asked what the government can do to encourage resident involvement in a multicultural area.

Public officials need to be creative with their workshops: day care, food and music are really good ideas to attract people. He cited a successful California example where a Mariachi band was hired and food was supplied.

University Boulevard East @ Crosswalk near Rite Aid

New mid-block crosswalk on University Blvd

Stephanie Yanovitz of SHA: The crosswalk was recently moved 10-20 yards to the east because pedestrians were crossing at this location due to its proximity to the bus stops.

Montgomery County Police Officers explained that if a pedestrian places her foot into an intersection, automobile traffic must yield to the crossing pedestrian, but that this does not happen because the cars are traveling too fast at the point where the crosswalk traverses University Boulevard.

The officers and Dan Burden pointed out that the street is engineered for much higher speeds than the posted limits, so automobile traffic is encouraged to speed. The officers have stopped people near Piney Branch Road traveling 70 to 80 miles per hour.

Someone suggests using rumble strips. Dan responds that these are too noisy.

TUESDAY 22-JUL-03-

Philadelphia Avenue/MD-410 @ Piney Branch Avenue

- This is another good location for a roundabout.

- There should be crosswalks on all four sides of this intersection and the stop lines for cars should be moved further away from the crosswalks so motorists do not confuse the two.

- Chestnut Avenue is a de facto right hand turn lane for northbound traffic on Piney Branch Road, so the actual right hand turn lane should be considered for elimination.

- The right hand turn lane on southbound Piney Branch could be eliminated. This would facilitate the addition of a sidewalk on the other side of Piney Branch.

- The median on Piney Branch Road south of the intersection is painted on the road. Instead, this should be replaced with a curb extension. The worn paint is proof that cars pass by too quickly. Higher speeds necessitate a wider angle to the curve, and the wider turn necessitates cars to drive over the median. A solid median would slow down traffic because it could not be driven over.

Sligo Creek Parkway Between Old Carroll and Jackson

- This section needs a sidewalk. The intersection of Old Carroll and Sligo Creek Parkway has a poor sight line to the left. Cars trying to enter the Parkway from Old Carroll have difficulty seeing oncoming traffic. This can be improved by trimming back the vegetation and underbrush. Drivers need a good clean line of sight for six seconds.

Sligo Creek Parkway @ Maple Avenue

- This is a skewed intersection. Move the stop back 40 feet and put in curb extensions on both sides. Narrow the street to 26 feet to accommodate bike lanes. A roundabout with channeled islands is another option.

Philadelphia @ Chicago and Takoma Avenues

- There are burned out light bulbs at both intersections. Additionally, the crosswalk markings could use repainting.

Takoma Metro Station vicinity

Carroll Street @ Cedar Street (by the 7-11)

One resident posed that cars on Carroll do not move fast enough and that there should not be on-street parking during rush hour to alleviate gridlock.

Another resident added that as a pedestrian, the area is inhospitable and that the sidewalks are too narrow in order to benefit the road. The curb cuts on Carroll occupy some of the sidewalk width. Their steep slope makes this a difficult area for pedestrians.

- One way to treat these problems would be to add a left turn lane from eastbound Carroll to northbound Cedar, and to add a crosswalk so that pedestrians on the east side of Cedar can cross Carroll. The extra few left hand turns that a left turn lane would allow might be enough (depending on traffic counts) to successfully alleviate gridlock. Having a crosswalk on the other side of Cedar would disperse the pedestrian crosswalk traffic, so a left turn from Carroll would be less likely to be slowed by a pedestrian.

- Improve the crosswalk markings.

Blair Street @ Cedar Street and 4th Street

Residents noted that this intersection has Metropolitan Branch Bike Trail implications, as the trail will be routed through the area.

- The pedestrian crossing on Blair Street (Metro side to BP gas station) at this intersection is dangerous. Motorists turning right from Carroll to Blair cannot see this crosswalk until they are literally just feet in front of it. The receiving width of Cedar Street heading west from the intersection is too large causing the crosswalk to be unnecessarily long. This can be shortened by adding curb extensions onto the northwest corner of the intersection.

- 4th street also has a larger than necessary receiving width. This would be a great place for a pedestrian refuge in the form of a planted island. Having many colors of planted material would make it very visible to automobile traffic.

- A roundabout in the shape of a dumbbell could be engineered for this intersection. It might be able to resolve all the issues brought up at this intersection.

Metro Station

Metro Green Space

This is meant to be a people place, but it is designed for the vehicle. The space is lacking people (no "eyes" on this space), so it would be easy for drug deals or other illegal activities to go unnoticed.

- There is a lot of underused hardscape (concrete, paving, etc.) and softscape (plants, trees, etc.) here. A sidewalk leading from Eastern Avenue to the Metrorail station is about 20 feet wide. There is probably not enough pedestrian traffic to warrant such a wide swath of sidewalk. More sections of sidewalk should be shaded. One suggestion would be to require that 40% of all asphalt be shaded in 5 years. A planted median may assist in accomplishing this.

- The situation of the Takoma Metro Station calls for city officials to be generalists who can orchestrate consultants (specialists) and make decisions with regards to details. The city officials should have an understanding of the big picture. The existing park is an example of what happens when there is little coordination between specialists of different backgrounds.

Bus Bays

- Use of a computerized bus bay system would maximize the usage of a minimum amount of bus bays, and to increase safety and comfort amongst bus riders. He recommends a system that would have one waiting area for all bus bays. One waiting space, rather than multiple ones, concentrates riders and creates safety in numbers. Economies of scale would allow the waiting area to be more attractive, in place of multiple waiting areas of lesser quality. In this waiting area, computer generated arrival information would tell passengers when their bus will arrive and at which bus bay it will stop. The amount of bus bays needed would be less than with the conventional system where bus routes stop at permanently assigned bays. Mountainview, CA is a good model for a transit station that has both bus and rail.

Resident Bob Patten: A centralized waiting spot enhances security and socialization, and the predictability that a computerized system provides will increase people's willingness to take a bus. Traffic congestion is predicted to increase; therefore, we will need more buses in the future.

- We must find ways for the buses to get through traffic. Signal preemption is one such solution. It works in one of two ways: (1) it will hold the green light for a bus to make it through the intersection, then shut down; and (2) it will change a light to green for approaching buses.

- Bike Racks and Lockers: You want to place your most favored mode near the station. Since bicycles do not have cold engine starts (no pollution) they should be the favored mode. Bike racks could be designed aesthetically with the racks in a style and manner with lighting and landscaping. Honolulu, Hawaii has bike racks throughout the city.

- Newspaper Boxes: Can be more attractive and consolidated. Rob Inerfeld mentioned that Takoma Park may be experimenting with such a model on Laurel Avenue.

- Parking: Dan supports well-built parking structures with mixed use, ground level shops and residential. He recommends converting grayfields to mixed use structures for parking. However, they must fit the character and sensibilities of the neighborhood. Additionally, they must allow for Jane Jacob's concept of "eyes on the street." The Mizner Park development in Boca Raton, Florida is a good model. It is a mixed use residential and commercial development. It has a parking garage behind townhouses. Vehicles enter through a service alley and go into their own parking garage.

Carroll St bus entrance and exit

- This has two times the width needed by the buses. Reduce this space and install curb extensions or an island in the middle to break up the space. The minimum amount of pavement should be used. There is more pavement in Takoma Metro's bus depot than is needed. One walkability tour participant pointed out that he has seen Metro officials park their vehicles in the middle of the busway and the buses can still maneuver around them without difficulty.

General Notes

Someone asked a question regarding historic preservation and character. We must design with history in mind. Do the research, and then decide what part of history you want to celebrate. For example, the highway building era or the streetcar era? Each community must decide. Then, get rid of the mistakes and remember that you can build the parts that are missing. Our needs change as human beings. The advent of faster cars is one such example necessitating change.

There are many areas of Takoma Park where there is no shade. Trees are good investments. They cost about $300, and $11 per tree in maintenance, which Dan estimated to be $4 per capita per year. A good tree canopy can reduce Air Conditioning costs 15-25% by shading asphalt—about a 58K return from one tree over time. Trees are also an effective traffic calming device: if trees are adjacent to the road, people drive a bit slower than if there are no trees.